

Claims

[c1] I claim:

1. A storage apparatus for elastic fastening devices comprising:

- a. a bungee tube with a first end and a second end and an exterior surface and an interior surface, the surfaces containing a multiplicity of attachment openings arranged through the tube from the exterior to the interior surface, the first end and second end containing an end opening; and
- b. the bungee tube attachment openings arranged such that a multiplicity of fastening devices of varying lengths may be removably installed on the bungee tube wherein the bungee tube may be rotated to a position allowing attachment or removal of a fastening device from the storage apparatus.

[c2] 2. The storage apparatus for fastening devices as in claim 1 further comprising the bungee tube ends contain a multiplicity of notches arranged such that the stored fastening device is constrained from motion relative to the bungee tube outer surface circumference by the notch.

- [c3] 3. The storage apparatus for fastening devices as in claim 1 further comprising the bungee tube attachment openings contain a multiplicity of notches arranged such that the stored fastening device is constrained from motion relative to the bungee tube outer surface circumference by the notch.
- [c4] 4. The storage apparatus for fastening devices as in claim 2 further comprising the bungee tube attachment openings are arranged such that the stored fastening device is constrained from motion relative to the bungee tube outer surface circumference by the bungee tube attachment opening size.
- [c5] 5. The storage apparatus for fastening devices as in claim 1 further comprising:
 - a. one or more axle brackets with an interior side, an exterior side, and a continuous opening between the interior and exterior sides such that the opening forms an axle bracket bearing surface, the axle bracket arranged within the bungee tube end openings such that the axle bracket is connected to the bungee tube interior surface;
 - b. a tubular axle with a first end and a second end arranged such that the tubular axle may be inserted through the axle bracket bearing surface such that

the axle bracket bearing surface may be rotated about the tubular axle wherein the connected bungee tube is also rotated about the tubular axle;

- c. two axle bracket spacers with a first end and a second end and an inner surface and an outer surface, the ends containing an end opening continuous from the first end to the second end, the openings arranged such that the tubular axle may be inserted into the opening;
- d. two axle caps with an attachment end and a closed end, the attachment end with an internal opening from the attachment end partially to the hanger end and arranged such that the tubular axle may be inserted in the attachment end internal opening, the attachment end further arranged with means for fastening the axle cap to the inserted tubular axle; and
- e. the axle bracket spacers first and second ends arranged such that the axle bracket spacer first end is adjacent to an axle cap and the axle bracket spacer second end is adjacent to an axle bracket exterior side wherein the axle bracket spacer retains the bungee tube in axial alignment with the tubular axle.

[c6] 6. The storage apparatus for fastening devices as in claim 2 further comprising:

- a. one or more axle brackets with an interior side, an

exterior side, and a continuous opening between the interior and exterior sides such that the opening forms an axle bracket bearing surface, the axle bracket arranged within the bungee tube end openings such that the axle bracket is connected to the bungee tube interior surface;

b. a tubular axle with a first end and a second end arranged such that the tubular axle may be inserted through the axle bracket bearing surface such that the axle bracket bearing surface may be rotated about the tubular axle wherein the connected bungee tube is also rotated about the tubular axle;

c. two axle bracket spacers with a first end and a second end and an inner surface and an outer surface, the ends containing an end opening continuous from the first end to the second end, the openings arranged such that the tubular axle may be inserted into the opening;

d. two axle caps with an attachment end and a closed end, the attachment end with an internal opening from the attachment end partially to the hanger end and arranged such that the tubular axle may be inserted in the attachment end internal opening, the attachment end further arranged with means for fastening the axle cap to the inserted tubular axle; and

e. the axle bracket spacers first and second ends ar-

ranged such that the axle bracket spacer first end is adjacent to an axle cap and the axle bracket spacer second end is adjacent to an axle bracket exterior side wherein the axle bracket spacer retains the bungee tube in axial alignment with the tubular axle.

[c7] 7. The storage apparatus for fastening devices as in claim 3 further comprising:

- a. one or more axle brackets with an interior side, an exterior side, and a continuous opening between the interior and exterior sides such that the opening forms an axle bracket bearing surface, the axle bracket arranged within the bungee tube end openings such that the axle bracket is connected to the bungee tube interior surface;
- b. a tubular axle with a first end and a second end arranged such that the tubular axle may be inserted through the axle bracket bearing surface such that the axle bracket bearing surface may be rotated about the tubular axle wherein the connected bungee tube is also rotated about the tubular axle;
- c. two axle bracket spacers with a first end and a second end and an inner surface and an outer surface, the ends containing an end opening continuous from the first end to the second end, the openings arranged such that the tubular axle may be inserted

into the opening;

- d. two axle caps with an attachment end and a closed end, the attachment end with an internal opening from the attachment end partially to the hanger end and arranged such that the tubular axle may be inserted in the attachment end internal opening, the attachment end further arranged with means for fastening the axle cap to the inserted tubular axle; and
- e. the axle bracket spacers first and second ends arranged such that the axle bracket spacer first end is adjacent to an axle cap and the axle bracket spacer second end is adjacent to an axle bracket exterior side wherein the axle bracket spacer retains the bungee tube in axial alignment with the tubular axle.

[c8] 8. The storage apparatus for fastening devices as in claim 4 further comprising:

- a. one or more axle brackets with an interior side, an exterior side, and a continuous opening between the interior and exterior sides such that the opening forms an axle bracket bearing surface, the axle bracket arranged within the bungee tube end openings such that the axle bracket is connected to the bungee tube interior surface;
- b. a tubular axle with a first end and a second end arranged such that the tubular axle may be inserted

through the axle bracket bearing surface such that the axle bracket bearing surface may be rotated about the tubular axle wherein the connected bungee tube is also rotated about the tubular axle;

- c. two axle bracket spacers with a first end and a second end and an inner surface and an outer surface, the ends containing an end opening continuous from the first end to the second end, the openings arranged such that the tubular axle may be inserted into the opening;
- d. two axle caps with an attachment end and a closed end, the attachment end with an internal opening from the attachment end partially to the hanger end and arranged such that the tubular axle may be inserted in the attachment end internal opening, the attachment end further arranged with means for fastening the axle cap to the inserted tubular axle; and
- e. the axle bracket spacers first and second ends arranged such that the axle bracket spacer first end is adjacent to an axle cap and the axle bracket spacer second end is adjacent to an axle bracket exterior side wherein the axle bracket spacer retains the bungee tube in axial alignment with the tubular axle.

[c9] 9. The storage apparatus for fastening devices as in claim 5 further comprising the axle cap closed end is ar-

ranged with means for hanging the storage apparatus by the axle cap.

- [c10] 10. The storage apparatus for fastening devices as in claim 6 further comprising the axle cap closed end is arranged with means for hanging the storage apparatus by the axle cap.
- [c11] 11. The storage apparatus for fastening devices as in claim 7 further comprising the axle cap closed end is arranged with means for hanging the storage apparatus by the axle cap.
- [c12] 12. The storage apparatus for fastening devices as in claim 8 further comprising the axle cap closed end is arranged with means for hanging the storage apparatus by the axle cap.
- [c13] 13. The storage apparatus for fastening devices as in claim 5 further comprising a vertical mounting stand with a mounting end and a support end, the mounting end arranged with an opening such that one end of the tubular axle may be inserted in the opening, the support end arranged such that the storage apparatus may be positioned in an orientation determined by the stand location.
- [c14] 14. The storage apparatus for fastening devices as in

claim 6 further comprising a vertical mounting stand with a mounting end and a support end, the mounting end arranged with an opening such that one end of the tubular axle may be inserted in the opening, the support end arranged such that the storage apparatus may be positioned in an orientation determined by the stand location.

- [c15] 15. The storage apparatus for fastening devices as in claim 7 further comprising a vertical mounting stand with a mounting end and a support end, the mounting end arranged with an opening such that one end of the tubular axle may be inserted in the opening, the support end arranged such that the storage apparatus may be positioned in an orientation determined by the stand location.
- [c16] 16. The storage apparatus for fastening devices as in claim 8 further comprising a vertical mounting stand with a mounting end and a support end, the mounting end arranged with an opening such that one end of the tubular axle may be inserted in the opening, the support end arranged such that the storage apparatus may be positioned in an orientation determined by the stand location.
- [c17] 17. A storage apparatus for elastic fastening devices

comprising:

- a. means for storing multiple fastening devices arranged in a cylindrical configuration;
- b. means for attaching and removing fastening devices of varying length; and
- c. means for rotating the apparatus wherein all the stored fastening devices may be viewed and retrieved.

[c18] 18. The storage apparatus for fastening devices as in claim 17 further comprising means for positioning the apparatus in a horizontal position.

[c19] 19. The storage apparatus for fastening devices as in claim 17 further comprising means for positioning the apparatus in a vertical position.

[c20] 20. A method of manufacturing a storage apparatus for elastic fastening devices comprising:

- a. selecting a bungee tube of a length such that a multiplicity of the longest elastic fastening devices may be stretched between the bungee tube ends; and
- b. forming a multiplicity of attachment openings in the bungee tube such that a multiplicity of elastic fastening devices of a multiplicity of lengths shorter than the longest elastic fastening devices may be stretched between attachment openings or between

an attachment opening and the bungee tube end.

- [c21] 21. The method of manufacturing a storage apparatus for elastic fastening devices as in claim 20 further comprising forming a multiplicity of bungee tube end notches such that the notches restrict movement of the fastening device on the bungee tube outer surface circumference.
- [c22] 22. The method of manufacturing a storage apparatus for elastic fastening devices as in claim 20 further comprising forming a multiplicity of attachment opening notches such that the notches restrict movement of the fastening device on the bungee tube outer surface circumference.
- [c23] 23. The method of manufacturing a storage apparatus for elastic fastening devices as in claim 21 further comprising forming a multiplicity of attachment opening notches such that the notches restrict movement of the fastening device on the bungee tube outer surface circumference.
- [c24] 24. The method of manufacturing a storage apparatus for elastic fastening devices as in claim 20 further comprising mounting the bungee tube on a multiplicity of axle brackets such that the axle brackets rotate on an

axle.

- [c25] 25. The method of manufacturing a storage apparatus for elastic fastening devices as in claim 24 further comprising installing axle caps on each end of the axle such that the device may be horizontally supported by the axle caps.
- [c26] 26. The method of manufacturing a storage apparatus for elastic fastening devices as in claim 24 further comprising installing a mounting stand on one axle end such that the device may be supported by the mounting stand.
- [c27] 27. A storage and retrieval method for elastic fastening devices with end attachment means comprising:
 - a. rotating a cylindrical bungee tube exterior surface such that an attachment opening is in view and arranged such that an elastic fastening device may be stretched between two attachment openings, or between an attachment opening and a bungee tube end, or between the bungee tube ends;
 - b. repeating step a. such that a multitude of elastic fastening devices of assorted lengths are stretched by the end attachment means between two attachment openings, or between an attachment opening and a bungee tube end, or between the bungee tube

ends;

- c. retrieving an elastic fastening device of desired length by;
 - d. rotating the bungee tube such that the fastening device lengths may be inspected;
 - e. selecting a desired fastening device; and
 - f. removing the desired fastening device from the cylindrical bungee tube such that the end attachment means are disengaged from the bungee tube.